

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Southeastern Area, State and Private Forestry
2500 Shreveport Highway
Pineville, Louisiana 71360

3400
November 26, 1980



Richard Meader, Superintendent
Hot Springs National Park
P. O. Box 1219
Hot Springs National Park, ARK. 71902

REPORT NO. 81-2-11

Dear Mr. Meader:

This letter is intended as an interim summary of the information which Paul Mistretta been able to formulate since meeting with your personnel on November 4, 1980.

1) Magnolia dieout - samples taken did not contain the expected Fusarium sp., all indications which we have now point to salt injury. During a discussion with his counterpart in Asheville, N. C. Paul mentioned that you were experiencing a spot dieout of magnolia on the park grounds. Symptoms on the National Park trees matched the description of salt injury in the Asheville area. Paul will contact Bob Le France and see if, despite their on site discussion, there is any possibility of this being a valid explanation.

2) The hackberry problem is definitely associated with the Hypoxylon sp. found on the trees. The National Agricultural Library is sending Miller's monograph of Hypoxylon spp. When it finally arrives we will be able to give you some further information.

3) Chinese holly hedge - as was discussed, the problem appears to be a virus mottle. We have located a laboratory in Delaware, Ohio which will analyze the samples we send. Unfortunately the samples taken on the 4th are now too dry to submit. Paul expects to be in Hot Springs on Monday December 1 and will speak to Bob Le France about taking fresh samples at that time. Submitted immediately, they will then require 4-6 weeks for analysis.

4) Southern red oak sampled along the promenade - A species of fungus, Botryodiplodia sp., was isolated which is associated with cankers of the red oaks. It is the cause of the branch dieout seen on that tree. Pruning of the affected branch system to remove both the inoculum and the eyesore is the only recommendation published for this problem.

- 5) Green striped caterpillar on oaks in the fall - Our entomologists suggest that this probably was the "variable oak leaf caterpillar" and that this insect defoliates so late in the season that (normally) it is not a problem for the host trees.
- 6) Promenade elms (two trees within the walkway) - No pathogenic organisms were seen or cultured. There is a strong probability that soil compaction by the heavy equipment movement, coupled to the drought this summer, accounts for these deaths. Removal prior to the onset of decay is recommended based on their location in an area of heavy pedestrian traffic.
- 7) Elm spanworm occurrence on West Mountain - Our entomologists agreed with the general tone of the discussion which you had with Paul. Based on the 1980 spring defoliation and the summer drought, spraying with Thuricide within 2 weeks of the emergence of the spanworm next spring is recommended. While not absolutely certain, it is felt that a defoliation next spring, of trees already severely weakened this spring and summer, would result in a large number of trees dieing.
- 8) Sycamore - Anthracnose, caused by Gnomonia veneta (Sacc. & Speg.) Kleb., is the primary cause of the dieback of the sycamores. Included is a copy of chemical and maintenance control recommendations. None of the chemicals are on the current lists of chemicals which are prohibited or require a FWGPM submission. Neither are they restricted use pesticides (EPA).
- 9) Finally, Bob requested a list of general works on pathology which might help him. Paul will bring with him a copy of Agriculture Handbook #386 (Hepting's "Diseases of Forest and Shade Trees...") which we found at the office and also a copy of "Forest Insect and Diseases of the South." In addition he recommends Pirone's "Diseases and Pests..." book. Included is a copy of the front page with publisher information.

Hope this answers some of the questions raised during Paul's visit. He is continuing work on the first three problems to give more complete answers.

Thanks for your interest.

Sincerely,

ROBERT C. LOOMIS
Field Office Representative

to this pest. Damage to the inner cambial regions by this larval stage, ~~dark~~-white, pinkish, or dull brownish caterpillar, may be so extensive that the tree dies prematurely. Wild cherry, ~~chain~~-ash, and all kinds of fruit trees are ~~susceptible~~.

Control: Avoid damaging trees and keep them in good vigor by feeding and watering. Spray the main trunk with methoxychlor 3 times at 2-week intervals starting in mid-May.

Sycamore Lace Bug (*Corythucha ciliata*). London planetree is much more susceptible to this pest than sycamore. These bugs feed extensively that the leaves are covered with light gray spots.

Control: Spray as soon as the eggs hatch on the leaves (about June 1 in the latitude of New York) with Diazinon, malathion, or Sevin. Some control is possible with a dormant spray applied just before growth begins in spring.

Other Insects. London planetrees may be attacked by other insects. These are discussed under *Platanus occidentalis*.

PLATANUS OCCIDENTALIS (SYCAMORE)

Diseases

Anthracnose (*Gnomonia platani*). The most serious fungus disease of sycamore is anthracnose. The first symptoms appear on the very young leaves as they unfold; they are apt to be overlooked or mistaken for frost injuries. At about the time that the leaves are becoming fully grown, light brown dead areas appear frequently along the veins. The spots may enlarge to include the whole leaf, which soon falls to the ground. The ends of the twigs to the length of 8 or 10 inches may also be killed, and either hang on the tree or fall to the ground with the dead leaves. Cankers may appear farther down on the young limbs (Fig. 191). They may develop also on rather

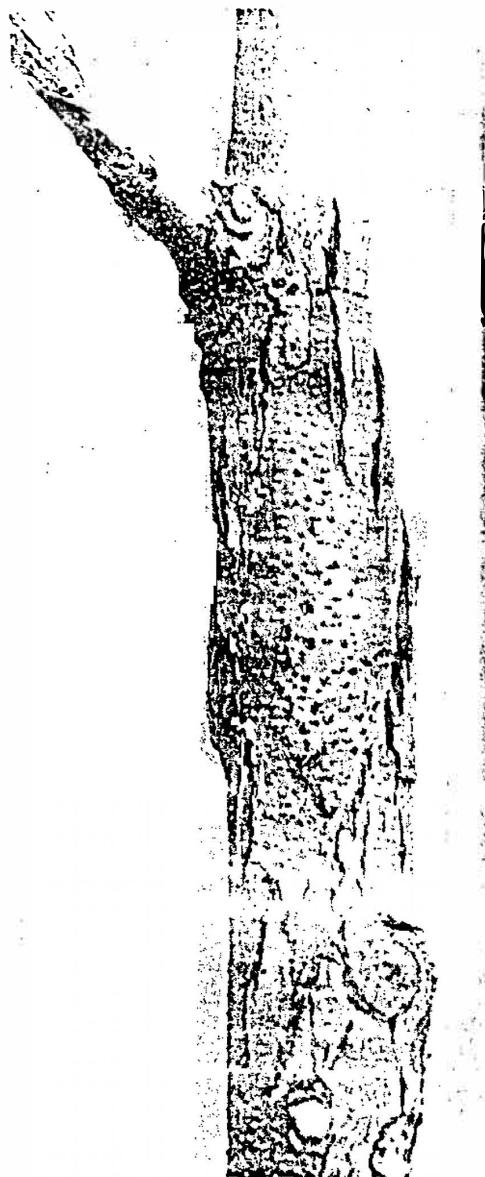


Fig. 191. Twig canker stage of sycamore anthracnose. Note fruiting bodies protruding from the bark. (Nassau County Co-op Extension Association)

large limbs, which are eventually killed, and unless pruned away are conspicuous even on large trees. Dead limb ends, several feet long,

are not uncommon. Old leaves that are attacked show symptoms like the scorch frequently seen on maple trees along streets. The disease is spread rapidly by the spores developed on the leaves first infected.

The prevalence and severity of attack are governed mainly by weather conditions, frequent rains and cool temperatures favoring rapid spread. If the average temperature during the 2-week period following the emergence of the first leaves is below 55°F., the shoot blight stage of the disease will be very serious. If the average temperature is between 55 and 60°F., it will be less severe, and if it is over 60°F. no injury will occur.

Control: Control measures are rarely attempted on sycamores growing in open fields or in woodlands. They are justified, however, on particularly valuable specimens and on those used for shade and ornament.

All fallen leaves and twigs should be gathered and destroyed in autumn to destroy the overwintering mycelium, which produces spores for the following spring's infections. Infected spurs and dead twigs should be pruned whenever feasible and destroyed. To protect valuable specimens spray the leaves with maneb or zineb when the leaves unfurl, when the leaves reach full size, and again, 2 weeks later. Difolatan sprays also provide control.

Trees suffering from repeated attacks should be fertilized in the fall or the following spring to increase their vigor.

Other Diseases. Several diseases of minor importance include brown leaf spots caused by the fungi *Mycosphaerella platanifolia*, *Phyllosticta platani*, and *Septoria platanifolia*. These can be controlled by adopting the spray schedule suggested for the control of anthracnose.

In the South, a bark canker on sycamore is caused by the fungus *Botryodiplodia theobromae*.

Insects

Aphids (*Longistigma caryae*). The giant bark aphid, up to $\frac{1}{4}$ inch in length, frequently attacks the twigs of sycamore, and may gather in clusters on the undersides of the limbs. These insects are also called planetree aphids. They are the largest species of aphids known and exude great quantities of honeydew.

Another species, *Drepanosiphum platanoides*, infests maples in addition to sycamores throughout the country.

Control: Spray with Meta-Systox R, malathion, or Sevin.

Sycamore Plant Bug (*Plagiognathus albus*). This bug in its adult stage, is $\frac{1}{8}$ inch long, tan or brown in color, with dark eyes and brown spots on the wings. The young bugs are yellow-green, with conspicuous reddish-brown eyes. These pests suck out the plant juices on the upper sides of sycamore leaves, presumably leaving a poisonous material which results in yellowish or reddish spots. As the leaves grow, the injured areas drop out, leaving holes.

Control: Malathion sprays applied in early May and again 2 weeks later will control this insect.

Sycamore Tussock Moth (*Halisidota harisi*). The caterpillar stage of this moth is yellow and has white to yellow hairs on its body. It occasionally becomes abundant on sycamores in the northeastern United States.

Four other species of tussock moths feed on the leaves of a wide variety of trees and shrubs. These are the pale tussock moth *Halisidota tessellaris*; the spotted *H. maculata*; the hickory *H. caryae*; and the Douglas-fir *Hemerocampa pseudotsugata*.

Control: Spray with Sevin or methoxychlor when the caterpillars are small.

Scales. Several species of scale insects, including black, cottony maple, grape, oyster-shell, sycamore, and terrapin, occasionally

FIFTH EDITION

Diseases and Pests of Ornamental Plants

PASCAL P. PIRONE

THE NEW YORK BOTANICAL GARDEN

A WILEY-INTERSCIENCE PUBLICATION

JOHN WILEY & SONS, New York • Chichester • Brisbane • Toronto

Copyright 1943, 1948, © 1960, 1970, 1978
by John Wiley & Sons, Inc.

All rights reserved. Published simultaneously in Canada.

Reproduction or translation of any part of this work
beyond that permitted by Sections 107 or 108 of the
1976 United States Copyright Act without the permission
of the copyright owner is unlawful. Requests for
permission or further information should be addressed to
the Permissions Department, John Wiley & Sons, Inc.

Library of Congress Cataloging in Publication Data:

Pirone, Pascal Pompey, 1907-
Diseases and pests of ornamental plants.

"A Wiley-Interscience publication."

Bibliography: p.

Includes index.

1. Plants, Ornamental—Diseases and pests.

1. Title.

SB603.5.P57 1978 635.9'2 77-26893
ISBN 0-471-07249-4

Printed in the United States of America

10 9 8 7 6 5 4 3 2